^{87}Br β^-n decay (55.65 s) 1977Nu04,1993Ru01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Alexandru Negret, Balraj Singh	NDS 124, 1 (2015)	30-Nov-2014

Parent: ^{87}Br: E=0; $J^\pi=3/2^-$; $T_{1/2}$=55.65 s *13*; Q(β^-n)=1303 *3*; %β^-n decay=2.60 *4*

^{87}Br-Q(β^-n): From 2012Wa38.

^{87}Br-J^π,$T_{1/2}$: From Adopted Levels of ^{87}Br in ENSDF database.

^{87}Br-%β^-n decay: %β^-n=2.60 *4* (weighted average of 2.56 *10* (1993Ru01), 2.1 *4* (1980ReZQ), 2.57 *15* (1980Lu04), 2.6 *4* (1978Kr15), 2.35 *40* (1975Iz03), 2.4 *4* (1972Sc48), 2.3 *3* (1971De35), 2.63 *5* (1967Pa26), 3 *1* (1967Ga19), 3.1 *6* (1964Ar24)). 2002Pf04 compilation gives 2.52 *7*.

1977Nu04: measured delayed E(n), I(n), Eγ, Iγ, β strength functions.

1993Ru01: measured %β^-n, $T_{1/2}$.

1975To09: measured E(n), I(n).

Other main studies: 1980ReZQ, 1980Lu04, 1974Kr21, 1972Sc48, 1971De35, 1964Ar24.

Others references related to β^-n: 1997Gr20, 1991AlZZ, 1986Ma28, 1983Ra21, 1979Kr03, 1977Re06, 1977Re05, 1976Ru01, 1976Ra20, 1974WoZJ, 1974Sh18, 1974Ru08, 1971Ch38, 1969WaZS, 1969ChZQ, 1967Ga19, 1966Wi18, 1966Si09, 1965Sh07.

1977Nu04: radiochemical separation. ^{3}He ionization chamber. From comparison of total line intensities with total neutron intensity it was concluded that 85% 13 of the neutron intensity was accounted for by the observed lines.

%β^-n=2.60 *4* (Adopted Levels, Gammas for ^{87}Br).

^{86}Kr Levels

E(level)	J^π
0	0^+

Delayed Neutrons (^{86}Kr)

E(n)†	E(^{86}Kr)	I(n)‡@	E(^{87}Kr)#	E(n)†	E(^{86}Kr)	I(n)‡@	E(^{87}Kr)#
18.0 *15*	0	0.48 *12*	5533.4	248 *4*	0	0.21 *5*	5766.1
40.3 *15*	0	0.078 *20*	5556.0	256.2 *25*	0	0.074 *18*	5774.4
52.2 *23*	0	0.35 *9*	5568.0	312.4 *24*	0	0.057 *14*	5831.2
70.8 *17*	0	0.17 *4*	5586.8	339 *3*	0	0.028 *7*	5858.4
79.9 *26*	0	0.12 *3*	5596.0	386.1 *22*	0	0.035 *9*	5906.0
121 *3*	0	0.15 *4*	5637.7	401 *3*	0	0.031 *8*	5921.1
135.8 *19*	0	0.15 *4*	5652.6	407 *3*	0	0.048 *12*	5927.3
147.5 *18*	0	0.13 *3*	5664.4	437.7 *24*	0	0.072 *18*	5958.0
169 *3*	0	0.067 *17*	5686.4	457 *3*	0	0.035 *9*	5977.5
182 *3*	0	0.18 *5*	5699.1	638 *4*	0	0.017 *4*	6160.8
211.1 *24*	0	0.057 *14*	5728.8	668 *4*	0	0.090 *22*	6191.1

† Neutron energy without recoil correction.

‡ Absolute neutron intensity if %β^-n=2.60 *4*; 25% uncertainty (1977Nu04).

From recoil-corrected neutron energy+Sn(^{87}Kr)=5515.17 *25* (2012Wa38).

@ For absolute intensity per 100 decays, multiply by 0.0260 *4*.

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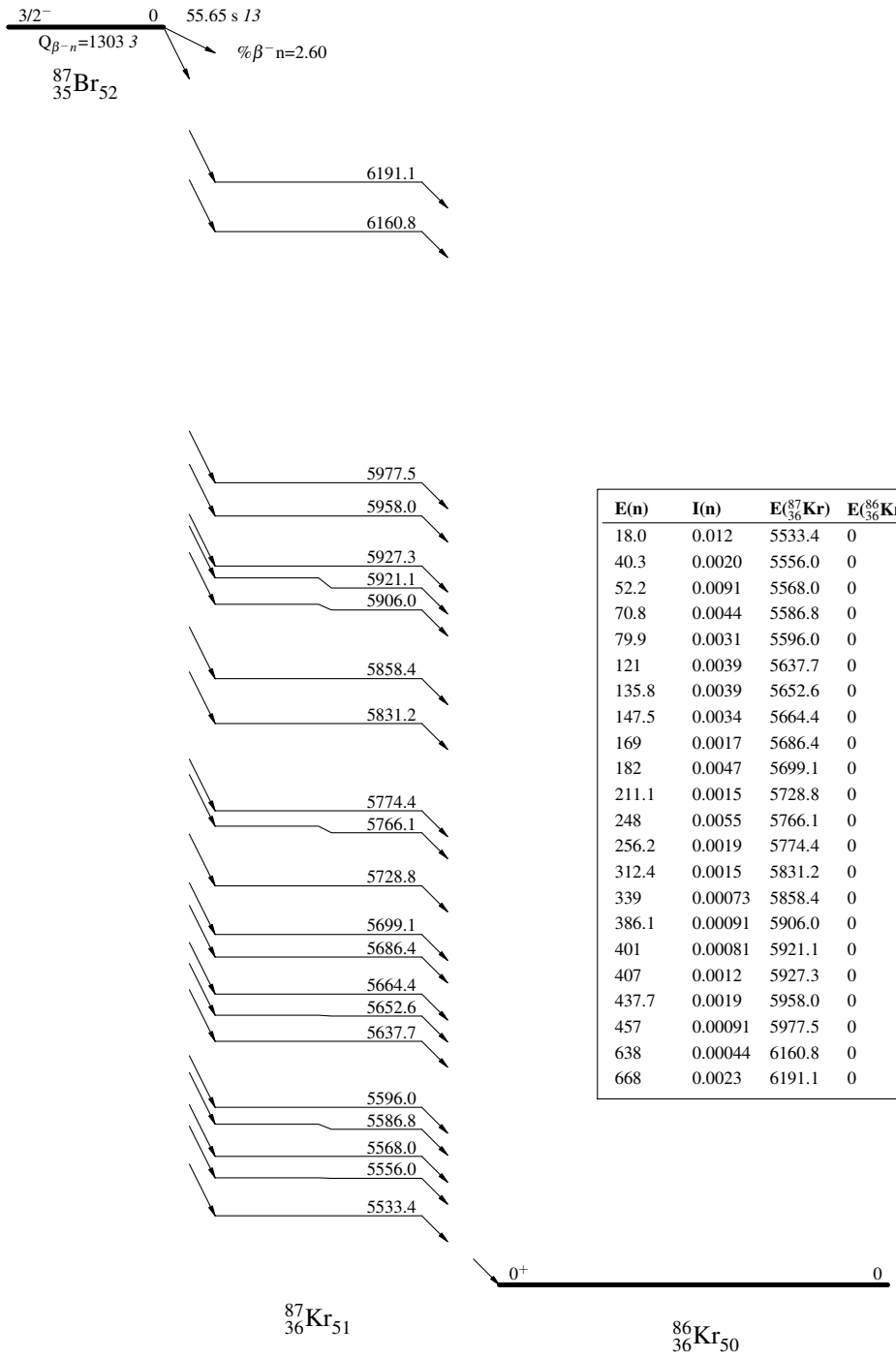
Decay Scheme

I(n) Intensities: Relative I(n)



E(n)	I(n)	E($^{87}_{36}$Kr)	E($^{86}_{36}$Kr)
18.0	0.012	5533.4	0
40.3	0.0020	5556.0	0
52.2	0.0091	5568.0	0
70.8	0.0044	5586.8	0
79.9	0.0031	5596.0	0
121	0.0039	5637.7	0
135.8	0.0039	5652.6	0
147.5	0.0034	5664.4	0
169	0.0017	5686.4	0
182	0.0047	5699.1	0
211.1	0.0015	5728.8	0
248	0.0055	5766.1	0
256.2	0.0019	5774.4	0
312.4	0.0015	5831.2	0
339	0.00073	5858.4	0
386.1	0.00091	5906.0	0
401	0.00081	5921.1	0
407	0.0012	5927.3	0
437.7	0.0019	5958.0	0
457	0.00091	5977.5	0
638	0.00044	6160.8	0
668	0.0023	6191.1	0